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ABSTRACT

As a discipline, marketing can offer several things of value to the National Institute of Education (NIE), both with respect to its design function and its dissemination. This report identifies those items that marketing can offer NIE and explains how they could be used. The authors maintain that NIE can profit from marketing's (1) emphasis on understanding the behavioral system of the client and its sophisticated methods of client systems analysis; (2) procedures for testing a product concept to bring it to a state of maximal readiness for dissemination; (3) interest in the development and selection of efficient channels for making a product available to users; (4) procedures for test-marketing products; (5) methods for selecting message, media, and timing to optimize communication effectiveness; and (6) effective organizational arrangements for optimal planning, implementation, and control of programs. (Author/JF)

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THE ROLE OF MARKETING IN A NATIONAL INSTITUTE OF EDUCATION

(FINAL)

Preliminary Report of a Planning Conference
April 2-3, 1972

Marketing Personnel Participating:

Louis P. Bucklin, University of California at Berkeley
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THE ROLE OF MARKETING IN A NATIONAL INSTITUTE OF EDUCATION

What is Marketing?

A common mistake is to confuse marketing with one of its subfunctions such as product and service need assessment, distribution, promotion, product development, or pricing. Marketing is interested in these activities but ultimately it is interested in how they combine to bring about exchange between suppliers and buyers and users. It is helpful to distinguish between three concepts that are often confused. The three concepts are defined below:

Marketing: the study of how exchanges or transactions are created, stimulated, facilitated and valued.

Marketing management: the analysis, planning, implementation, and control of programs designed to bring about desired transactions with target audiences for the purpose of personal or mutual gain. It relies heavily on the adaptation and coordination of activities known as configuration, valuation, symbolization, and facilitation to achieve the desired response.

Marketing concept: a philosophy of marketing management calling for a consumer orientation backed by integrated marketing aimed at generating consumer satisfaction as the key to satisfying organizational goals.

Note, then, that marketing is interested in describing, explaining, and predicting characteristics of transactions. Marketing management is a normative science interested in controlling or influencing transactions. The marketing concept is a philosophy of marketing management holding

that the most effective way to plan for consumer acceptance is through consumer understanding, analysis, and satisfaction.

As a discipline, marketing can offer several things of value to the National Institute of Education, both with respect to its design function and its dissemination function. They are listed here briefly and will be developed in detail in the rest of the paper.

1. Marketing emphasizes understanding the behavioral system of the client and contains sophisticated methods for client system analysis.
2. Marketing emphasizes designing products in a way which will maximally satisfy the choice criteria of the adopters. Marketing contains many procedures for testing a product concept to bring it to a state of maximal readiness for dissemination.
3. Marketing emphasizes the development and selection of efficient channels for making the product available to those who are in a primary position to use and benefit from it.
4. Marketing emphasizes the test marketing of the product to bring it to better form before intense dissemination; and also to observing it through the life cycle to reposition it or modify its features.
5. Marketing emphasizes the right selection of message, media and timing to optimize communication effectiveness.
6. Marketing emphasizes effective organizational arrangements in the form of motivated change agents and responsibility centers (product and marketing managers) for optimal planning, implementation, and control of programs.

Let us turn now to a discussion of how some of the above marketing emphases can be useful to the NIE.

Educational Assessment and Educational Indicators: A Panel of Publics in Education

Educational assessment and educational indicators should focus on:

1. Problem areas in education. Continuously monitored by time-phased studies of attitude and performance indices related to broad problem areas, i.e., central-city schools, vocational technical training, handicapped and disadvantaged students, and teacher training.
2. "Methods" and programs in education. Continuously monitored by time-phased studies of attitude and performance indices, i.e., perceptions of preferences for the various features or attributes of the methods and programs.
3. Program acceptability. What programs would be acceptable to different client groups?
4. Perceived comparative advantages. Acceptability of alternative solutions to various educational problems.
5. Priorities. Identification and establishment of priorities among educational problems.

Educational assessment and educational indicators should be specifically designed to examine attitudes and performance through time and across the wide range of constituencies education serves or relies on for cooperation and support. At the broad problem level, this will provide a picture of emerging and receding problem areas as viewed by education's various constituencies. At the "methods" and programs level the activity more clearly concerns identifying change opportunities and following the success or failure of extant programs and methods.

A principal goal of the assessment/indicator activities of NIE should be the identification of:

Current and prospective NEEDS	&	Current and prospective ABILITIES
Need constituencies include:		Ability constituencies include:
Parents		School Systems
Students		Scientific Community
Educators		Private Sector Participants
Politicians & Bureaucrats		Government Agencies
Employers		
Citizens		

Each of the constituencies on the left influence the demand for education, the quantity and quality of the educational system's output. Clearly, the needs of the various groups are not common and conflicts may occur both across and with constituencies (i.e., by level and type of school system or background and income of parent). In a word, demand is segmented.

On the ability or supply side, various limitations are imposed on the capacity to fill needs. The nature and financial resources of schools, the capacity of society to absorb change and the state of technology implementing certain programs or methods may facilitate and inhibit filling important needs. Conditions in the "supply and market" side of the problem make it necessary for NIE to recognize the convergence of the two sets and the constituencies that make them up.

Area of NIE's Greatest Opportunity

Only where need and ability, present or prospective, are found together can the work of NIE be made really effective. To identify the special

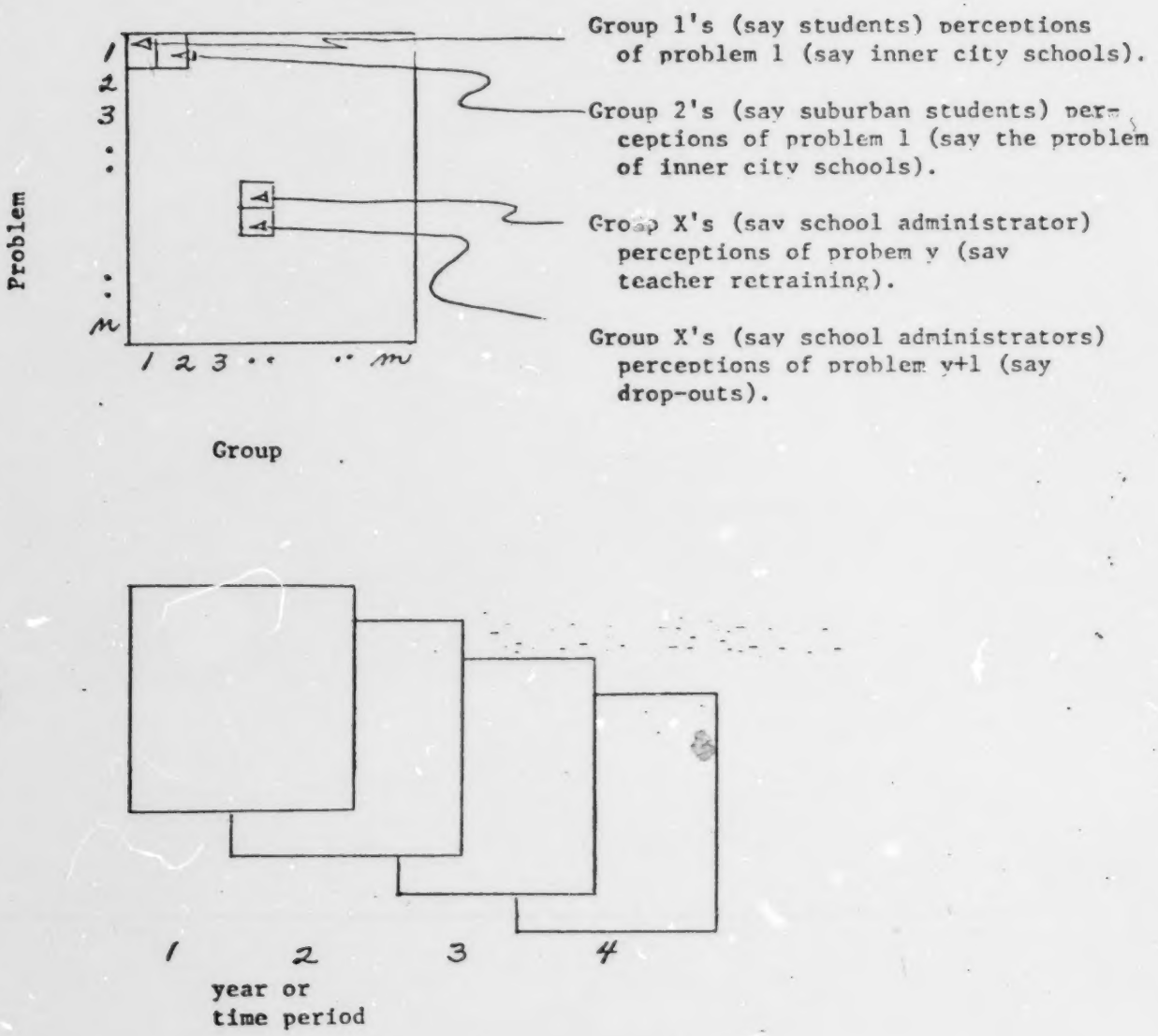
opportunities in the area where needs and abilities converge, NIE needs to monitor the attitude and performance features of current (and proposed) programs and the more general large scale problem-contexts within which they are found.

Operational Procedures for Monitoring the Educational Environment

The monitoring of the Problem Areas of education would be conducted with the aid of a panel composed of education's principal "publics." Greatest emphasis would fall on subsamples composed of the populations noted above under NEEDS and ABILITIES; Students, Educators, Parents, Employers, "Tax Payers," Politicians, School Administrators, and representatives of concerned sectors of Government, Science and Private Enterprise.

In dealing with each of the "publics," an effort would be made to tap their special knowledge and interest in the topics. As far as possible an effort would be made to learn how perceptions of the problem, value of it, preferences for means of dealing with it and values associated with these perceptions and preferences vary across and within each group (or public). Time profile by problem across groups and by group across problems would emerge as a way to map where education is and where it has been in terms of its most pressing problems.

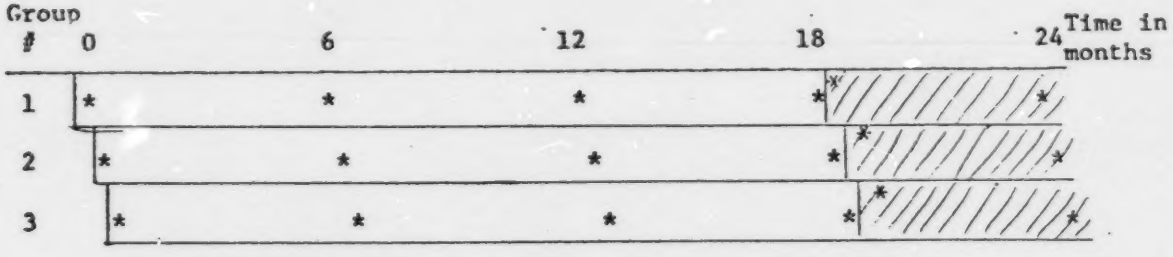
Diagrammatically,


Group 1's (say students) perceptions of problem 1 (say inner city schools).
Group 2's (say suburban students) perceptions of problem 1 (say the problem of inner city schools).
Group X's (say school administrator) perceptions of probem y (say teacher retraining).
Group X's (say school administrators) perceptions of problem y+1 (say drop-outs).
Problem
1 2 3 . . . m
Group
1 2 3 4
year or time period

Above, the group by problem by time is the basis for mapping. Each year the perceptions, values and preference would be measured for the key groups and problems. Five to ten key problems and about ten key groups would be examined annually. Subjects would be remeasured in a panel design permitting direct examination of year to year changes. Each

year at least half the subjects would be reinterviewed and no subject would be reinterviewed more than three times.

The above basic design can be made more flexible to accommodate the monitoring of attitudes and performance indices about methods and programs. Where practical, the same panel members would be surveyed about selected critical problems and about methods and programs. Particularly in the case of programs and methods, the germane subject matter differs from public to public and from time to time. All subjects would not be covered across all publics on each contact with respondents. Also, to review methods and programs of great current interest about which information is needed more regularly or in greater depth, a more flexible panel design is required that can quickly reach special interest publics. Such a panel would cover basic publics but small, new groups of respondents being added and droped from the sample on a regular basis. Therefore, a group of respondents drawn by quota from appropriate publics or interest groups would be added each month. They would be interviewed on entry and at the end of several succeeding six-month intervals before being replaced.



* = group interviewed

//// = new group replacing old group

Assume a group has 500 respondents and 18 groups enter before Group 1 leave the panel, after its fourth interview contact. Panel has 9000 members at any one time and 2000 are covered by interview each month.

This design, when respondents are assigned by quota across publics and polled about problems methods and programs provided a very flexible procedure for monitoring the educational environment. NIE will receive the desired measurements for problem areas, methods and programs, and can compare them across time periods and publics. Also, new topics can be introduced and old ones dropped in any public subgroups as NIE needs to know and the environment changes may dictate.

A Marketing Approach to Innovations

The need for a well defined classification scheme pertaining to innovations* and their attributes has been widely acknowledged by educators and given a high ranking in terms of research priority. For example, it might be determined that educational innovations could be grouped into three categories such as curriculum innovations, e.g., sex education and the new math, teaching technique innovations, e.g., simulation games, and administrative innovations, e.g., change team, voucher systems, and racially integrated classrooms. Furthermore, it might be found that such innovation attributes as its impact on subsequent innovations, technological complexity, ability to use on a small scale during a trial period, and social relations impact, to name a few, might be differentially relevant to the various categories of whatever basic classification scheme might be found most relevant.

The utility of such a taxonomical activity is based on the strategy generating capacity it would provide. A set of general prescriptive strategies could be developed for each classification-

*An innovation is viewed here as any idea, practice or object perceived as new by the individual or group representing the unit of adoption. It does not matter how long the item has been in existence nor how many units of adoption have accepted it.

attribute item.

The literature in education is not without attribute statements concerning innovations nor is it without statements of change strategies. What is lacking, however, are change strategies rooted, at least in part, in the characteristics of the innovation, i.e., the change object. But before such strategies can be developed, it is necessary to have a proper understanding of the nature of educational innovations. Marketing has accumulated considerable expertise in the matter of mapping new product perceptions, i.e., determining what the salient attributes of particular innovations are for particular user groups. Moreover, there exists a considerable inventory of strategies for diffusing new products especially as the new product enters various life cycle stages. Some of these attributes and strategies may be of relevance to educational innovations. What is more important, however, is that there exists in the marketing field the expertise and technology for ascertaining innovation attributes and developing diffusion strategies. Furthermore, this is a topic of growing concern in marketing and thus will be an area where knowledge will continue to increase. The marketing experience in this area includes innovations which exist only as ideas, innovations which involve practices but not material objects, and innovations which do have physical manifestations. The marketing profession has accumulated considerable experience with innovations requiring substantial attitudinal and behavioral changes among adopters. It must be added that just as many educational innovations fail, so do many noneducational consumer and industrial innovations fail to become widely accepted by the target group. Knowledge in this area can be used to advantage. It is helpful to study failures to learn what to avoid by way of product features and to an increasing extent the

process of resistance to innovation in general is coming under close scrutiny in marketing. An outline of resistance related factors studied in marketing is shown in Table I.

In summary, it is suggested here that the task of developing a typology of innovation categories and attributes and corresponding action strategies taking resistance into account be assigned to marketing personnel who are knowledgeable in the field of education or to a team composed of marketers and educators. A technical note commenting on procedures related to this task is attached as an appendix to this report.

Market Classification in Education

It should be noted that a meaningful classification of innovations may focus on particular roles. Thus, for a given innovation, there may be a consensus on salient attributes among teachers which differs from the consensus found among administrators and so forth. This raises the notion of market segmentation. "Market segmentation is the subdividing of a market into homogeneous subsets of customers, where any subset may conceivably be selected as a market target to be reached with a distinct marketing mix."* Thus the educational market could be segmented according to its major actors, e.g., parents, pupils, teachers, consultants, school administrators, public officials and so forth. An additional way of segmenting would be according to level of instruction which would vary from nursery school and kindergarten to graduate education. There are many other bases for segmentation which, when cross-classified, multiply the number of segments by a substantial order of magnitude.

It is important that careful attention be given to selecting the

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*Philip Kotler, Marketing Management, 2nd ed. (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1972), p. 166.

TABLE I. FACTORS FOR STUDY IN THE ANALYSIS OF RESISTANCE TO CHANGE

I. THE NATURE OF RESISTANCE

- A. Resistance Defined
- B. Resistance versus Acceptance
- C. Passive versus Active Resistance

II. SOURCES OF RESISTANCE AT THE INDIVIDUAL LEVEL

- A. Prior Attitudes and Beliefs
- B. Perception and Selective Processes
- C. Conformity and Commitment
- D. Learning and Forgetting
- E. Opinions of Others
- F. Personality Constructs
- G. Risk and Psychological Investment
- H. Perceived Need
- I. Resource Inadequacy
- J. Other Sources of Resistance

III. SOURCES OF RESISTANCE AT THE SOCIAL SYSTEM LEVEL

- A. Vested Interest in Status Quo
- B. The Sacrosanct
- C. Bottoms-up versus Top-down Change
- D. Infrastructure Considerations
- E. Principle of Homophyllous Succession
- F. Norm Systems
- G. Role Structure
- H. Resource Inadequacy
- I. Other Sources of Resistance

IV. RESISTANCE AS A POSITIVE FACTOR IN CHANGE

V. CONDITIONS DETERMINING WHEN PARTICULAR SOURCES OF RESISTANCE WILL BE OPERATIVE

VI. STAGES OF RESISTANCE

relevant criteria for market segmentation. Once a market has been segmented the next step in a careful marketing plan is to model the adoption behavior of the market segments. Assume that in a given instance the relevant segments are represented by particular roles in the educational system. A possible model of innovation information processing for the educator could resemble that shown in Figure 1.

Inherent in Figure 1 is the notion of stages in decision making. Many decision-making process typologies have been developed in and out of marketing. Basically all have the following common factors although different labels and degrees of refinement are frequently employed: first there is an awareness and interest stage; second an evaluation and trial stage, third an adoption or rejection stage; and finally a resolution stage involving continued adoption modification or rejection. The development by marketers of such decision-making stages in contexts of education for the major market segments would be very useful in guiding overall dissemination programs. This model, amplified with additional variables, would be operationalized for each relevant role. The essential constituents to be modeled are shown in Figure 2. It is essential to understand perceptions, needs, and preferences of at least these five constituents. The common framework for understanding and monitoring was shown in Figure 1.

Marketing research has produced a number of models of processes ongoing in various market segments which could be of considerable value in the education market. Some of these models have reached the stage where they are being operationalized and tested in sophisticated ways. Here again if some of the specific models of market behavior do not fit a particular educational setting, there is still the experience and

Figure 1. Innovation Information Processing in Education

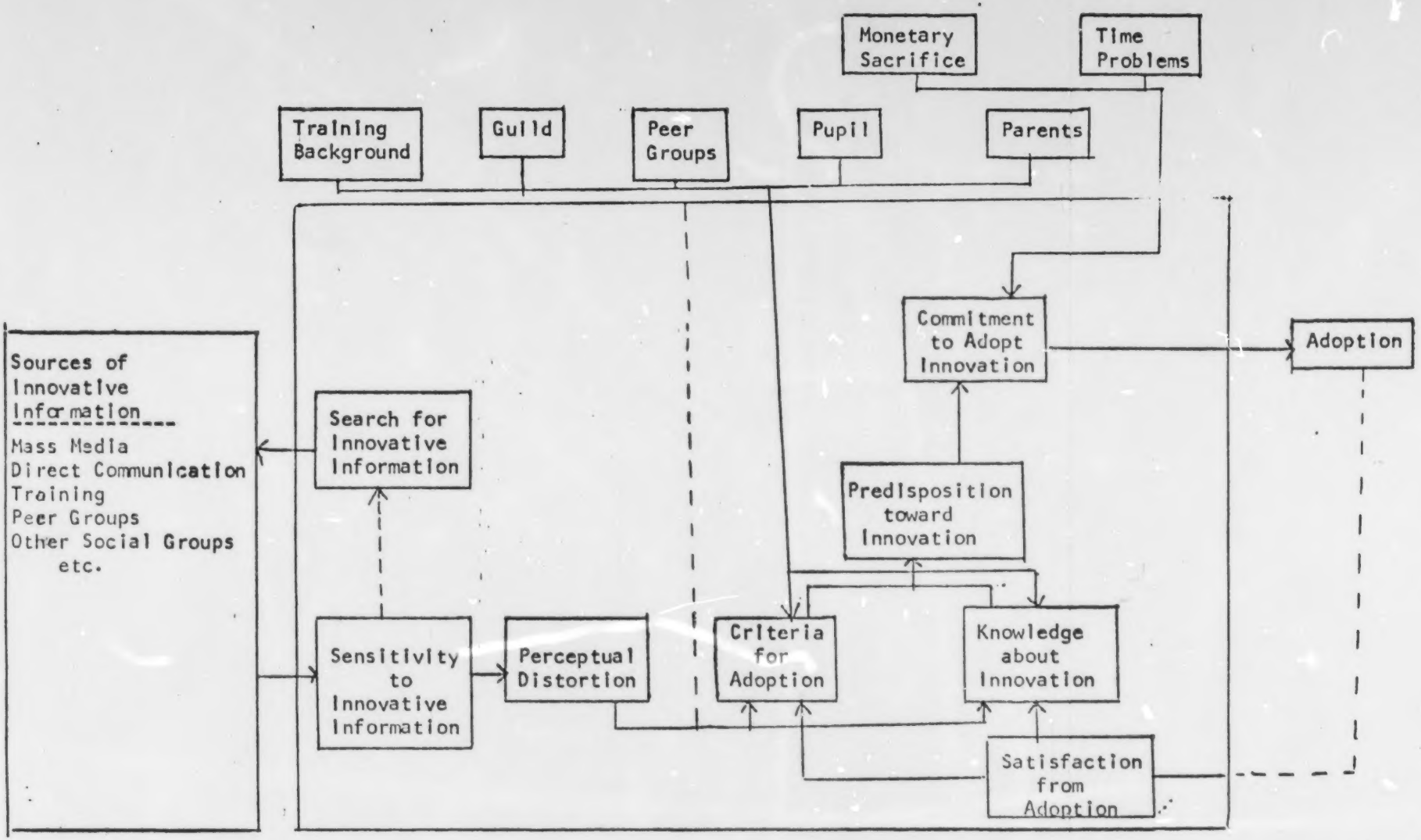
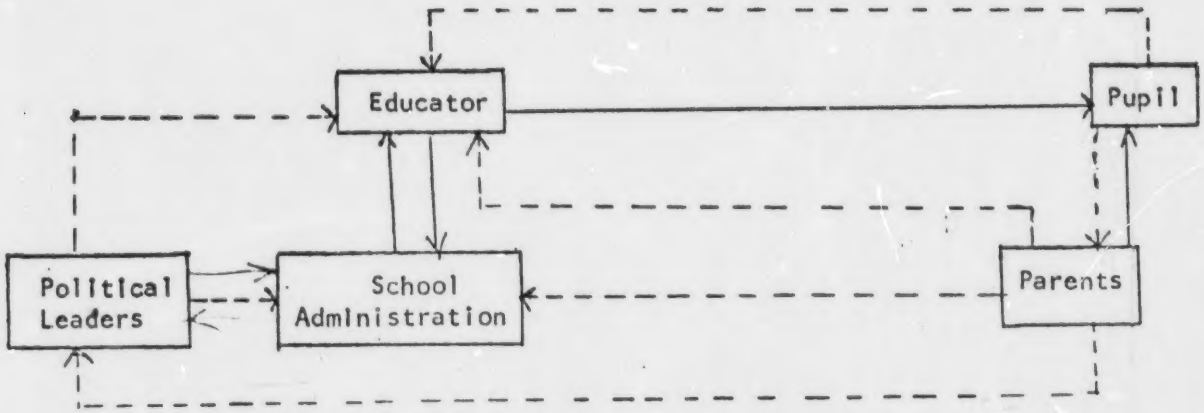


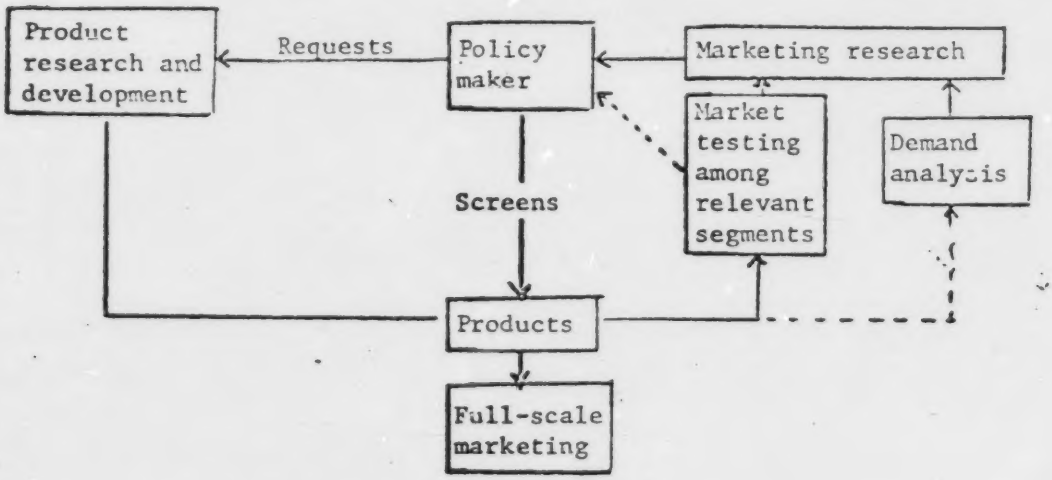
Figure 2. The Essential Constituents and Their Interaction



Solid lines represent forward information flows.
Broken lines represent feedback.

expertise that the marketing profession has accumulated with regard to model building and model testing techniques. Model building and testing in marketing typically involves monitoring each of the variables represented by the boxes in Figure I. This may involve among other things establishing a panel (as described earlier) for each role (or whatever other segmentation criteria is involved). Typically, then, marketing research would attempt to segment the total potential market for an innovation, assess the current and possible future needs, model the adoption process for the various segments and then develop an overall dissemination or diffusion program.

It is not suggested here that segmentation activities be conducted only after an innovation has appeared. It is not an unusual marketing practice to segment markets on some a priori basis and monitor these segments for clues for new products to meet unsatisfied needs. Indeed, new product forecasting based on needs assessment techniques is becoming a major specialty in marketing and is a must for the NIE. For example, the schematization shown below represents the interaction of a dynamic marketing organization with its environment.



The marketing manager or policy maker undertakes demand analysis through marketing research techniques including panel data on the basis of his research on current and anticipated requests or commissions product research and development. Management then screens the product alternatives put forth, test markets the most promising alternative(s), evaluates the test market results through further research and decides to go into full scale marketing or to conduct further R&D activities or very possibly decides to reject the suggested products. In evaluating test market results, careful attention is usually devoted to each of the market segments to see which might possibly be satisfied by the same version of a product. This is part of the process of determining the identity and optimal number of market segments to pursue in the full scale campaign.

This discussion is intended to recommend that the following traditional marketing activities be employed with regard to education even though the criterion measures of success in their performance may differ in the two contexts: market segmentation, marketing research including demand analysis and test marketing. It is strongly urged here that although the profit criterion is not involved that these activities be undertaken in consultation with marketing experts. The NIE might establish an advisory panel of marketing experts specializing in new product forecasting, new product testing, and new product diffusion. This panel might be convened periodically to assess general programs and subgroups consisting of specialists in a particular area and might be convened on an as-need basis. The higher level panel would determine when the specialist subgroups should be convened and for what particular NIE projects.

Modeling in Marketing

The discussion above has emphasized the role of model building. A few

more remarks are in order here. Two special contributions the marketing profession can make in the adoption modeling area derive from its extensive experience in selling to organizations. Marketers could model school systems, e.g., school district, etc., much as they model industrial organizations. Thus a model would be developed highlighting the salient components of the school system, the interfaces among components of the system model and the emergent phenomena resulting at the interface, barriers to change, factors facilitating change (e.g., what organizational climates or characteristics are involved in receptivity to change) and the goals, resources, and settings affecting both change agents and changes. As in the modeling of consumer behavior distinctions would be drawn between decision makers, implementers of decisions, and the user group. Change strategies appropriate to potential problem areas specified in the model would also be developed. Such a model building activity is likely to vary from the type generally developed by nonmarketing professionals in that it would highlight and be oriented toward elements of the system where innovations can be most readily introduced and would specify strategies for maximizing the likelihood of adoption of a set of innovations by that organization. Such marketing models have a very specific mission which is to provide a basis for effective intervention in the system being modeled. NIE could commission such model building activities for, say, the school district as the system. In this case a random sample of school districts would be the basis for developing such a model. Or perhaps some very specific systems in which it is known in advance that changes are going to be introduced would be selected. In any event some existing marketing models might be studied for their implications for education or marketing expertise could be tapped more directly and be

channeled into the construction of education specific organization models.

It is very important to note the orientation the discussion has followed thus far. Emphasis has been placed on the unit of adoption and what might be done by way of needs assessment including establishing panels, adaptation of innovation characteristics, and the modeling of individual and organizational behavior. Product development and dissemination strategies are developed only after these activities are developed. There are of course exceptions to this procedure but it is the general mode of behavior. Thus what is characteristic of change in marketing is that in a special way it is oriented toward "bottom-up" change rather than "top-down" change. Market information systems have this characteristic. Information flows from consumers (via longitudinal or one-time surveys and laboratory experiments) to any one or combination of marketing research sensors, e.g., various channels including salesmen, retail and wholesale outlets, marketing research agencies or departments, and from these intermediary channels to marketing management. A similar information flow structure would be desirable in education. Thus a flow might look as follows: Students ⟶ Teacher ⟶ Administrator within school ⟶ school district ⟶ school unit defined politically, e.g., city, town ⟶ state department of education ⟶ regional development laboratory ⟶ National Institute of Education. Each of the units placed at the beginning of the arrow might be viewed as the consumer unit for the unit shown at the end of the arrow. Also, the further along in the sequence of arrows a unit is, the larger the number of consumer units it must be concerned with, i.e., all those preceding it. Thus one program NIE should be concerned with is the development of a bottom-up information system.

Dissemination and Distribution Strategy

While needs and preferences move via marketing research from the bottom up, i.e., from the basic consumer unit such as a teacher or school district to the disseminator and developer of educational services there is a reciprocating movement of products and services from the top down. This brings us to the question of dissemination and distribution strategy.

One of the central concerns in marketing is the development of optimal channels for distributing products and services from producers to consumers. Normally the producers and consumers are separated in space. Furthermore, the production and consumption of the products are separated in time. Finally, different buyers may wish different assortments of the available products. This problem of a space, time and assortment gap between producers and consumers creates a problem in distribution. The producers seek to develop a combination and sequence of institutions or linkages to their market to overcome these gaps. These institutional arrangements constitute the marketing channels for the products.

In the commercial world, a producer can distribute his product to his target markets in a variety of ways, ranging from direct marketing (no selling intermediaries) to increasingly complex combinations of selling intermediaries (involving any number of types, such as wholesalers, brokers, retailers, agents, and so on). In addition, the producer contracts for the services of facilitating intermediaries including warehouses, freight companies, banks, insurance companies, and so on.

In the noncommercial world, the problem of distribution also exists, as the following examples show:

1. Public welfare departments have to find an efficient way to

distribute welfare payments so that they are not stolen or lost.

2. City public libraries seek to make books available through a main library and several branches, the latter of which must be created in certain numbers, sizes, and locations. In addition, ancillary distribution channels are available including bookmobiles and the mailing of books in response to telephone requests.

3. City health departments are seeking better ways to distribute health services and are considering a number of innovative retailing institutions.

4. Police departments have to decide how to distribute their services throughout the city on a 24-hour basis in relation to the pattern of demand and need for various types of services.

The public school system is also a particular solution to the problem of distributing educational services to children. The local schools are the "retailers" and the school districts are the wholesaling units. The School Boards must make decisions about how many local schools to establish, their size, location, and degrees of functional specialization.

Likewise, NIE will be in the business of researching and developing educational products and seeking to distribute them to potential users and audiences, including school districts, local schools, teachers, and educational consultants and producers. A key proposition in marketing is that good products do not sell themselves automatically. They lie on the producer's shelf unless information is disseminated and interest and desire are build up for these products. Communication and distribution planning are vital functions in the innovation diffusion process.

NIE faces a number of broad options with respect to possible structures for achieving efficiency in the dissemination of its research products.

Four of these options are shown in Figure 3 and described below.

1. Direct Marketing Model

In this model, NIE, located in Washington, faces 18,000 school districts which might be a potential market for the new innovation. It can proceed in two broad ways to introduce the innovation:

(a) NIE can mail a description or piece to some or all of the school districts eliciting their further interest. Those school districts which respond favorably are sent more material or personal calls are made on them. They become the original triers.

(b) NIE can determine which schools have the greatest potential interest in the innovation or which should be the first to try it. It contacts these schools and attempts to gain their cooperation.

2. Regional Dissemination Center Model

The previous model lacks any selling or facilitating intermediaries through which NIE could reach the various schools. In the commercial world, direct marketing is normally more expensive than indirect marketing because intermediaries often are able to perform distributive functions at a larger scale and therefore at a lower cost. They also are in closer contact with the market, know its characteristics better, and are more effective at selling to it. Furthermore, intermediaries offer convenience, assortment, and other services important to the purchaser.

The NIE could gain some of these advantages by designing or utilizing intermediaries through whom they could channel their regular innovations. One possibility would be to use the 50 State Departments

FIGURE 3

FOUR MODELS FOR DISSEMINATING EDUCATIONAL INNOVATIONS

1. Direct Marketing Model

(Zero level marketing channel)

0. NIE → all school districts

2. Regional Dissemination Center Model

(One level marketing channel)

0. NIE → RDC
1. RDC → school districts

3. RDC and Innovator School Model

(Two level marketing channel)

0. NIE → RDC
1. RDC → innovator schools
2. Innovator schools → other schools

4. RDC, Innovator School, and Local Change Agent Model

(Three level marketing channel)

0. NIE → RDC
1. RDC → innovator schools
2. Innovator schools → school district change agents
3. Change agents → other schools

Symbols:

- ● NIE
- ● RDC
- × Innovator school
- ∈ School district change agents
- • School district

of Education by encouraging each of them to act as the agent of the NIE for new products. This solution would be effective to the extent that the State Departments are effective with their clients and are willing to perform this function in the way required. If this is not the case, the NIE should think of establishing new types of centers, far fewer than 50, who would act as regional centers of dissemination (see Figure 3). This solution was used by the NASA program in attempting to increase the rate of technology transfer from space research into commercial products. These regional dissemination centers (RDC), in the case of NASA, did not work out as well as hoped, largely because they spent most of their time in library and document dissemination work and too little in personal contact work.* However, they are a possible model for NIE, with NIE having to work out certain answers:

(a) What functions should an RDC perform? (Local marketing research, library function, publicity function, interpersonal contact function, conference sponsorship, workshop sponsorship, etc.)

(b) How many RDC's should there be, where should they be located, what degree of autonomy should they have, should they charge fees, how can their effectiveness be measured?

(c) Should the RDC's be located in existing institutions such as universities, or be independently established as nonprofit institutions, or be operated as private-for-profit organizations?

3. RDC and Innovator School Model

The previous model leaves it to the RDC's to select the school districts in their region to contact for a particular innovation. The question arises as to whether an intermediate linkage mechanism should be established between the RDC and its many local school districts. One possibility is the establishment of a regular panel of schools on which

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*See Samuel I. Doctors, The NASA Technology Transfer Program: An Evaluation of the Dissemination System (New York: Praeger, 1971).

to try innovations (see Figure 3). These innovator schools are like the test markets of commercial marketers or the testing stations of the Agricultural Department. The RDC arranges with its panel of innovator schools to try out an innovation. This avoids the problem of having to establish fresh contacts and arrangements every time there is an innovation to try out. The major problem is that the results of testing in innovator schools is useful to the extent that (1) they are representative and (2) they provide some opinion leadership for other schools.

4. RDC, Innovator School, and Local Change Agent Model

One further improvement in formal channels for NIE research products would be accomplished if each school district buys the concept of assigning one person to be the district's internal change agent. This person would be responsible to the school district for (1) searching for new ideas and solutions to local school district problems by going to the RDC, NIE, etc., and (2) bringing innovations to the right parties within their school district. The establishment of this formal position within all school districts would make it easier for NIE and RDC's to determine who to contact for information and communication. Establishing this type of job position requires a number of questions to be answered, such as what should the change agent's functions be, how much authority and status should they have, and what kinds of people would be most effective in this role.

Other Distribution Concepts

Thus the NIE has the option of relying on ad hoc distribution strategies for each new product or establishing a more formal marketing channel through which the new products are sent, reassorted, packaged,

and introduced.

Other concepts from the field of distribution may also have suggestive import for NIE.

1. Generalization, Specialization, Programatization

Early retailing took the form of the general store which carried a large variety of products to meet a large variety of needs. Later, specialized stores appeared that carried particular products for particular customer types or need classes. The latest retailing development is toward programatization, that is, the emergence of institutions that design and deliver whole programs or assortments to satisfy a class of needs. There are firms that will design whole shopping centers, cities, etc., fitting these things to the particular specifications of the buyer.

NIE might want to consider the extent to which, if it develops regional dissemination centers or other intermediaries, they should be operated as generalized, specialized, or programatic outlets.

2. Franchising

One of the strongest distribution developments in recent years is that of franchising, where someone recognizes a need and an assortment of services that would answer this need. He proceeds to put together an efficient supplier mix and channel system for delivering the products and services. Whereas older forms of retailers sold products, franchisers sell services. NIE might want to encourage the development of educational franchising systems (private or public) that are efficient in meeting educational needs.

3. Chain Store Concept

Chain stores are groups of stores under common ownership and management that develop a particular position in the market place, and which

achieve economies in buying, selling and administration. School districts represent a chain store concept of educational retailing. It is also conceivable that various individual schools, or school districts, might combine along other than geographical lines to form buying or innovation leagues.

4. Consumer-Oriented Channels

Channel planning traditionally runs from the producer to the consumer, supplying what appears to be an efficient way for the producer to get his products to consumers. It is more useful to look at the concept of channel from the point of view of the consumer who is trying to acquire things from producers. The channel is the way in which the consumer sees where to go to get the things he needs or wants. Local school innovation might be encouraged to the extent that the local schools perceive with clarity the channels for acquiring information about innovations.

5. Push Versus Pull Strategies

Consumers can be attracted to purchase in two ways. They may be exposed to direct information or promotion which whets their appetite for a product and leads them to seek it at outlets. This is called a pull strategy because the producer is acting on customers who will try to pull the product through the system. On the other hand, the producer might incentivize the retailers to carry and promote the product. This is called a push strategy.

In the case of local school systems which are usually not responsive to innovations which could benefit their student population, the NIE may consider a pull strategy consisting of creating widespread awareness of the product and interest in it on the part of parents, teachers, and

even students. Mass publicity thus becomes an important tool in stimulating a more rapid rate of trial of new educational products.

Follow-up Activities

Thus far bottom-up change activities followed by top-down change activities have been discussed. What remains is the follow-up task. Once an intervention is made in any market place by virtue of introducing an innovation of any order of magnitude it is necessary to monitor its utilization and undertake remedial activities if the innovation is underutilized, improperly utilized or its desired use is threatened by changes in the social system, by changes in technology or possibly by changes in the competitive market environment. Whatever programs NIE helps bring about in education its involvement should not always cease at the time the program is launched. In fact, as is almost always the case in marketing, NIE will have to maintain a surveillance of the programs it helps launch. This is necessary in part for reasons related to evaluation research. Surveillance is also necessary, however, to ensure the proper functioning of its sponsored programs. Typically any new entry into a market passes through a series of life cycle stages each involving somewhat different product, distribution, and promotion mixes. As the milieu of the market changes so must the activities of the sponsoring firm, in this case NIE. This general area or topic life cycle follow-up activities after program introduction is an area where considerable marketing expertise has been accumulated and upon which NIE can draw.

Marketing Organization Within NIE

The benefits of a marketing orientation may not be fully realized unless definite positions are created in the organization to carry out

marketing tasks in a professional way. Reporting to a chief administrator might be a marketing administrator who supervises a staff consisting of three different types of managers: product managers, marketing services managers, and market managers.

Product managers have responsibility for researching, planning, implementing, and controlling specific products, services, or programs of the agency. For example, each major program of NIE may be assigned to an administrator who is responsible for analyzing, planning, and controlling his program against a given set of objectives.

Marketing services managers have responsibility for providing expertise in the development and management of specific marketing resources and activities, such as marketing research, product design, communications, personal representation, and logistics. These managers are specialists in these respective areas and offer agency-wide services to various units of the agency.

Finally, market managers are responsible for coordinating all of the Organization's products and services destined for a particular market. A market manager monitors the market's changing wants and needs and proposes new products, services, and programs. NIE might consider appointing specific managers for government relations, superintendent relations, and teacher relations. Each manager would be responsible for gathering continuous intelligence on his market and insuring that the agency's services are satisfactory to that market.

The Use and Role of Incentives

One final but very important consideration for the NIE involves the use of incentives to achieve a desired behavior on the part of the

individual or group. Incentives have many dimensions. They may be financial or consist of some service or nonmonetary commodity. Incentives may be provided immediately upon adoption of a new educational practice or product or it may be deferred until some period of use has elapsed. Incentives may be positive such as the giving of resources for adoption or negative in the form of withholding or withdrawing resources or assistance for failure to utilize the object whose use NIE wants to encourage. Furthermore, incentives may be used to encourage schools to disseminate or diffuse practices to other schools in addition to adopting the innovation in question themselves.

Considerable marketing research including true experiments is needed in education to answer such strategy questions as what type of incentives are most appropriate to particular user groups and innovations, whether and when immediate or deferred incentives are most appropriate, etc.

While the use of incentives in education needs more study it is clear that they have an important -- perhaps crucial -- role in the dissemination of new educational practices and products. Incentives function to stimulate both interest in and trial of innovations, particularly among those groups who are least likely to be innovative. Clearly this is the group among whom demand must be stimulated and who are least responsive to non-incentive-motivated adoption strategies such as information dissemination and demonstration projects.

Marketing research and experience can contribute greatly to the development of appropriate incentive strategies in education. In addition to developing strategies marketing can also contribute insight into the means of changing the incentive system in education. This, of course, requires that we first map out the existing incentive system and determine

where it is not functioning properly.

In summary, we strongly urge NIE to consider stimulating demand for and use of innovations by undertaking a program in which the current incentive system is clearly defined and evaluated. Furthermore, such a program should provide for experimentation with alternative incentives.

TECHNICAL APPENDIX

Analyzing the Cognitive/Affective Attributes of Social Alternatives

* The critical problem in understanding and improving individual social choice behavior is identifying the attributes of social choice. In education, choices are made among alternative methods and programs that influence value. Once individual preferences have been scaled, one still knows little about the processes generating individual preference and choice. For example, why are some candidates preferred to others, some charities supported more readily than others, or some models of public education preferred to others? Are numerous, apparently significant aspects of some choice objects misunderstood or ignored? Do individuals come from a single population or can important segments be located whose value systems differ for the choice objects of interest? Answers to questions such as these can become the foundation of programs designed to provide more complete, objective information about the social choices and design alternatives that meet the differential needs of individuals.

The above discussion may sound much like the traditional problems faced by marketers -- understanding how consumers currently value products and services, finding ways to improve these offerings and encourage consumers to choose the best available products and services for their individual needs. The critical problems encountered in dealing with these objectives in the social realm have already been mentioned. They are principally the difficulties encountered in assigning values to alternatives and understanding how these values arise.

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* Material abstracted and edited from "A Measurement and Composition Model for Individual Choice Among Social Alternatives," a paper prepared by Edgar A. Pessemier for the Marketing Theory Symposium, Syracuse University, May, 1972.

Measuring comparative worth or utility has already been briefly discussed. The attribute evaluation problem is less yielding. Even in a market context, it is very difficult to define the attributes of brands that give rise to differences in the worth of these brands. Describing the value-generating attributes of educational alternatives is even more difficult. This fact will not prevent us from giving the matter serious attention. Failure to do so would be an admission that improved educational methods and programs and individual choices among alternatives are the product of painful trial and error, the social equivalent of the biologist ruling order of "chance and necessity."

We will deal sequentially with a range of theoretical and practical issues involved in identifying and describing determinant attributes of social preference and choice. First, the objects of choice, especially education methods and programs, are complex bundles of consequences that may be very indirectly associated with observed, measurable properties of the alternatives. Consider the colleges and curricula that a prospective student may be reviewing. This alternative set is typically large and the attributes of each alternative are ill-defined and open-ended. Selecting any alternative of this type may close some paths but it generally opens, or leaves open, numerous possibilities whose outcomes must await future events and choices. To reduce to manageable verbal descriptions the essential attributes that determine the preference and choice in these circumstances, it is essential to keep the purpose of "description" clearly in mind. If only identification is required, any nominal scale would do. However, if the description is to aid an individual identify and evaluate alternatives, the attributes employed must be suitable for the purpose. An accrediting body may examine a university's

faculty qualifications, course offerings and facilities for research and instruction. A prospective student may examine the tuition, location, social and athletic opportunities, the achievements of graduates and general institutional prestige.

Here, consideration of the degree of influence that an attribute has on individual utility and choice will indicate the attribute's analytical determinancy. In turn, this determinancy is a function of how well the attribute discriminates between choice objects and how much the differences between the alternatives on that attribute influences preference and choice. A set of manufacturers' parts lists will be of little help to most car buyers. The "objective, micro" differences such lists define will be hard to judge and the influence of these differences on utility cannot be easily assessed. Instead of starting with "fine grain," "hard" measures of the properties of the alternatives, it is usually more desirable to develop subject-centered descriptions that use attributes that are most meaningful to the individual. Individuals can often provide the requisite information by completing repertory grids for alternatives or by participating in open-end individual and small group discussion of alternatives. The latter methods have been widely used and deserve little comment here. The repertory grid method discussed by Sampson and some scaling procedures suggested by Pessemier and Tigert which can be used to evaluate attributes deserve further discussion.

In the repertory grid method, objects (alternatives) in the choice set which have been fully identified (if not fully described) are presented for triad comparisons. The subject matches the two most similar objects and states basis of the similarity judgment. Next, the subject states what made the third object dissimilar to the two that were matched.

This process continues until all triads have been examined. The lists of reasons for discrimination are reduced to attribute statements and redundant items are dropped. The process may be repeated for a sample of judges.

Once a sufficiently exhaustive list of attributes are in hand, they should be scaled by two criteria; the contribution of the attribute to the satisfaction gained from an alternative and its contribution to helping the subject choose the best alternative. Here the distinction is between discrimination/choice and ownership/use values. Both criteria are potentially important. In either case, comparative or categorical judgment methods are suitable for scaling the importance of attributes. If ownership/use value is of concern, the attributes may be scaled directly. However, when discrimination/choice values are considered, the order in which information about the attributes is sought is also of interest. Asking subjects to sequence potentially available information about attributes prior to indicating a series of preference (or choice) judgments for one of several underidentified choice objects is a convenient, workable experimental procedure to scale the importance of temporal order in the information.

Once the attributes lists have been assembled and scaled in importance by several criteria, unimportant attributes may be dropped. At this point, however, it is almost certainly the case that numerous highly correlated attributes will remain on the list. The list may be reduced by factor analysis or some less formal procedure, replacing the former attributes descriptions with new ones that are suitable representatives of the smaller number of more independent, "condensed" attributes. If this step is taken, some pretesting of the reduced list along with the

old extended list is required to make sure the real "texture" or characteristics of the alternatives have not been sacrificed to goals of experimental simplicity and computational efficiency. It is especially important that attributes that have substantial importance in limited contexts or circumstances are not removed or weakened. If the problem becomes severe, separate lists may be required for each context or class of individual.

If the above steps are successful, the attribute sets will represent largely independent (orthogonal) descriptors capturing both the utility and discriminate judgments that are essential components of choice behavior. Even if the variable-reduction analysis step is not undertaken or proves only partially successful, the final attribute list has been generated by a formal procedure designed to both locate and evaluate the determinant attributes of the educational alternatives. The attributes are then used to obtain individual judgments about all alternatives in the set being judged, responses being recorded on semantic differential scales.

With the judged attribute data in hand for each alternative, the next question concerns selecting a model for combining the attribute data with the pure preference data. By invoking Luce's choice theorems and Steven's Power Law, the preference scale values are converted into choice probabilities prior to entering the preference/choice model discussed elsewhere. In summary, the analysis has generated the appropriate input data by the following process:

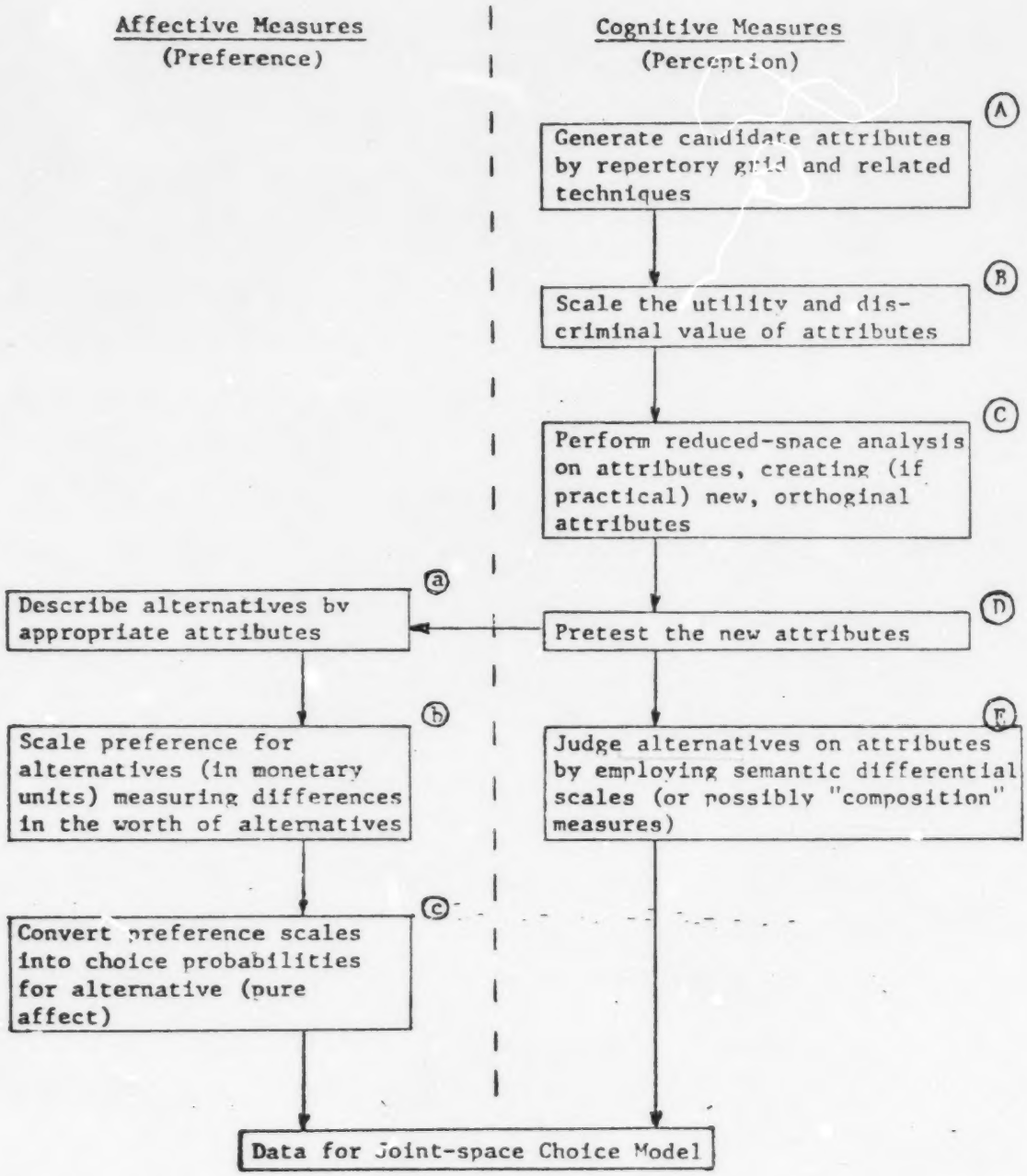
Affective Measures
(Preference)
Cognitive Measures
(Perception)
A
Generate candidate attributes by repertory grid and related techniques
B
Scale the utility and discriminal value of attributes
C
Perform reduced-space analysis on attributes, creating (if practical) new, orthoginal attributes
D
Pretest the new attributes
a
Describe alternatives by appropriate attributes
b
Scale preference for alternatives (in monetary units) measuring differences in the worth of alternatives
c
Convert preference scales into choice probabilities for alternative (pure affect)
E
Judge alternatives on attributes by employing semantic differential scales (or possibly "composition" measures)
Data for Joint-space Choice Model

Figure 1 The Data Collection Process

The joint-space model noted at the foot of Figure I allows the analyst to jointly locate people (i.e. students and administrators) and objects (i.e. programs or methods) in psychological space suitable for analysis. Here, people's perceptions and preferences may be changed or programs' attributes may be changed. The possibilities provide wide latitude for the analyst and designer to find efficient ways to introduce desirable change.

In regard to finding new or novel opportunities, it is often a good strategy to start with a larger set of attributes than those applicable to the alternatives being considered. Such sets can be generated by introducing open-ended alternatives subjects are asked to redesign to their liking and then describe them in the repertory style already discussed. Having subjects define new alternatives that can effectively meet the requirements of some problem, use-context or functional scenario is also a highly useful technique. Frequently, it will expand the choice set and attributes available to describe new alternatives.

Another problem relates to the role of the analyst/advocate. Given the complex character and important societal impact of many educational alternatives, full disclosure and careful analysis of first, second and higher order effects are more important than in the case of most common consumer goods. Unfortunately, advocates often fail to look carefully at the total costs and undesirable side effects. It is not a case of ill-will, quite the contrary. Since they see themselves as the non-commercial defenders of the public, they may become too optimistic about the effectiveness of the alternatives they propose. Tough minded analysis and balanced advocacy should become an instinctive part of their style in developing and presenting alternatives.

The case where "quantities" of alternatives can be acquired by individuals in relatively small increments over a wide range of resource commitments, and the case where alternatives are not mutually exclusive or utility independent deserve attention which they have not received here. Also, group decision processes in the educational choice arena should receive extensive analysis and modeling. It seems fair to state, however, that the problem of individual preference and choice is sufficiently fundamental that a successful attack on it may open new avenues for studying other important areas of educational choice.